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<u>L4</u>	11 with 12	2	<u>L4</u>
<u>L3</u>	11 and 12	209	<u>L3</u>
<u>L2</u>	(remov\$ or reduc\$ or decreas\$ or diminish\$) near7 alcohol	44101	<u>L2</u>
<u>L1</u>	(oligosaccharide or trehalose or sucrose or fructose or mannose) near6 cell	4099	<u>L1</u>

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☐ 1. 20020114791. 16 Jan 02. 22 Aug 02. Erythrocytic cells and method for preserving cells. Crowe, John H., et al. 424/93.21; 514/178 A61K048/00 A61K031/56.

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☐ 2. 5733762. 31 Oct 96; 31 Mar 98. Complexes of nucleic acid and polymer, their process of preparation and their use for the transfection of cells. Midoux; Patrick, et al. 435/458; 435/325 514/44 530/300 530/345 530/350 530/395 530/402 536/23.2 536/23.5 536/23.7 536/24.5. C07K001/00 C07K001/107 C12N015/00 C12N015/88.

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FILE 'MEDLINE, CAPLUS, BIOSIS, SCISEARCH' ENTERED AT 19:01:38 ON 05 JUN 2003

L1 21736 S (OLIGOSACCHARIDE OR TREHALOSE OR SUCROSE OR FRUCTOSE OR MANNO  
L2 14180 S REMOV?(7A)ALCOHOL  
L3 47671 S (DECREAS? OR REDUC?) (7A)ALCOHOL  
L4 61033 S L2 OR L3  
L5 19 S L1 AND L4  
L6 10 DUP REM L5 (9 DUPLICATES REMOVED)

=> d bib ab 1-10 16

L6 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2003 ACS  
AN 2002:638128 CAPLUS  
DN 137:152032  
TI Erythrocytic cells and method for preserving cells  
IN Crowe, John H.; Crowe, Lois M.; Tablin, Fern; Wolkers, Willem F.;  
Tsvetkova, Nelly M.; Oliver, Ann F.  
PA USA  
SO U.S. Pat. Appl. Publ., 63 pp., Cont.-in-part of U.S. Ser. No. 927,760.  
CODEN: USXXCO  
DT Patent  
LA English  
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002114791	A1	20020822	US 2002-52162	20020116
	US 2001019819	A1	20010906	US 2001-828627	20010405
	US 2002076445	A1	20020620	US 2001-927760	20010809
	WO 2003014331	A1	20030220	WO 2002-US24773	20020805

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,  
RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ,  
VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,  
CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,  
PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,  
NE, SN, TD, TG

PRAI US 2000-501773 B2 20000210  
US 2001-828627 A2 20010405  
US 2001-927760 A2 20010809  
US 2002-52162 A 20020116

AB The invention concerns a dehydrated compn. is provided that includes freeze-dried erythrocytic cells. Alc. (e.g., sterol or cholesterol) is at least partially removed from erythrocytic cells including erythrocytic membranes. After removal of at least part of the alc  
., the erythrocytic cells have a low phase transition temp. range, an intermediate phase transition temp. range, and a high phase transition temp. range. The erythrocytic cells may be loaded with an oligosaccharide (e.g., trehalose) which preserves biol. properties during freeze-drying and rehydration. A process for increasing cooperativity of a phase transition of an erythrocytic cell. A process for preserving and/or increasing the survival of dehydrated erythrocytic cells, including storing dehydrated erythrocytic cells having a residual water content equal to or less than about 0.30 g of water per g of dry wt. erythrocytic cells.

L6 ANSWER 2 OF 10 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE

1

AN 2002:539528 BIOSIS  
 DN PREV200200539528  
 TI Grape skins as a natural support for yeast immobilization.  
 AU Mallouchos, A.; Reppa, P.; Aggelis, G.; Kanellaki, M.; Koutinas, A. A.; Komaitis, M. (1)  
 CS (1) Department of Food Science and Technology, Agricultural University of Athens, Iera Odos 75, Athens, 11855: achem@aua.gr Greece  
 SO Biotechnology Letters, (August, 2002) Vol. 24, No. 16, pp. 1331-1335.  
<http://www.kluweronline.com/issn/0141-5492>. print.  
 ISSN: 0141-5492.

DT Article

LA English

AB Grape skins were used to immobilize *Saccharomyces cerevisiae*. In repeated batch fermentations of grape by immobilized and free cells, the maximum specific rate of **alcohol** production on glucose **decreased** from 7.98 h<sup>-1</sup> at 25 degreeC to 0.7 h<sup>-1</sup> at 5 degreeC. The rate was approximately twice as high as that on **fructose**. The rates for free cells were very low. The maximum alcohol yield (0.45 g g<sup>-1</sup>) was obtained at 5 degreeC when the immobilized biocatalyst was used.

L6 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2003 ACS

AN 1996:133819 CAPLUS

DN 124:173574

TI High-cell-density cultivation of yeasts on disaccharides in oxygen-limited batch cultures

AU Castrillo, Juan I.; Kaliterna, Janko; Weusthuis, Ruud A.; van Dijken, Johannes P.; Pronk, Jack T.

CS Kluyver Lab. Biotechnology, Delft Univ. Technology, Delft, 2628 BC, Neth.

SO Biotechnology and Bioengineering (1996), 49(6), 621-8

CODEN: BIBIAU; ISSN: 0006-3592

PB Wiley

DT Journal

LA English

AB Many facultatively fermentative yeast species exhibit a "Kluyver effect": even under oxygen-limited growth conditions, certain disaccharides that support aerobic, respiratory growth are not fermented, even though the component monosaccharides are good fermentable substrates. This article investigates the applicability of this phenomenon for high-cell-density cultivation of yeasts. In glucose-grown batch cultures of *Candida utilis* CBS 621, the onset of oxygen limitation led to **alc.** ferment. and, consequently, a **decrease** of the biomass yield on sugar. In maltose-grown cultures, **alc.** ferment. did not occur and oxygen-limited growth resulted in high biomass concns. (90 g dry wt. L<sup>-1</sup> from 200 g L<sup>-1</sup> maltose monohydrate in a simple batch ferment.). It was subsequently investigated whether this principle could also be applied to *Kluyveromyces* species exhibiting a Kluyver effect for lactose. In oxygen-limited, glucose-grown chemostat cultures of *K. wickerhamii* CBS 2745, high ethanol concns. and low biomass yields were observed. Conversely, ethanol was absent and biomass yields on sugar were high in oxygen-limited chemostat cultures grown on lactose. Batch cultures of *K. wickerhamii* grown on lactose exhibited the same growth characteristics as the maltose-grown *C. utilis* cultures: absence of ethanol formation and high biomass yields. Within the species *K. marxianus*, the occurrence of a Kluyver effect for lactose is known to be strain dependent. Thus, *K. marxianus* CBS 7894 could be grown to high biomass densities in lactose-grown batch cultures, whereas strain CBS 5795 produced ethanol after the onset of oxygen limitation and, consequently, yielded low amounts of biomass. Because the use of yeast strains exhibiting a Kluyver effect obviates the need for controlled substrate-feeding strategies to avoid oxygen limitation, such strains should be excellently suited for the production of biomass and growth-related products from low-cost disaccharide-containing feedstocks.

L6 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2003 ACS

DUPLICATE 2

AN 1993:402353 CAPLUS  
 DN 119:2353  
 TI Anaerobic regulation of the adhE gene, encoding the fermentative alcohol dehydrogenase of Escherichia coli  
 AU Leonardo, Michael R.; Cunningham, Philip R.; Clark, David P.  
 CS Dep. Microbiol., South. Illinois Univ., Carbondale, IL, 62901, USA  
 SO Journal of Bacteriology (1993), 175(3), 870-8  
 CODEN: JOBAAY; ISSN: 0021-9193  
 DT Journal  
 LA English  
 AB The regulation of the adhE gene, which encodes the trifunctional fermentative acetaldehyde-alc. dehydrogenase of E. coli was investigated by the construction of gene fusions and by two-dimensional protein gel electrophoresis. Both operon and protein fusions of adhE to lacZ were induced 10- to 20-fold by anaerobic conditions, and both fusions were repressed by nitrate, demonstrating that regulation is at the level of transcription. Nitrate repression of .PHI.(adhE-lacZ) expression, as well as of alc. dehydrogenase enzyme activity, was partially relieved by a mutation in narlL. Mutations in rpoN or fnr had no effect on the expression of adhE. Two-dimensional protein gels demonstrated that induction was due to synthesis of new protein, not to activation of preexisting protein. When oxidized sugar derivs. such as gluconate or glucuronate were used as carbon sources, the anaerobic expression of .PHI.(adhE-lacZ) was greatly **reduced**, whereas when sugar **alcs.** such as sorbitol were used, the expression was increased compared with expression when glucose was the carbon source. This observation suggested that induction of .PHI.(adhE-lacZ) might depend on the level of reduced NADH, which should be highest with sorbitol-grown cells and lowest with glucuronate-grown cells. When .PHI.(adhE-lacZ) was present in a strain deleted for the adhE structural gene, anaerobic expression of .PHI.(adhE-lacZ) was approx. 10-fold higher than in an adhE+ strain. Since the presence of alc. dehydrogenase would serve to **decrease** NADH levels, this finding again implies that the adhE gene is regulated by the concn. of reduced NAD. Introduction of a pgi (phosphoglucose isomerase) mutation reduced the anaerobic induction of .PHI.(adhE-lacZ) when the cells were grown on glucose, but had little effect on **fructose-grown cells**. Pyruvate did not overcome the pgi effect, but glycerol 3-phosphate did, which is again consistent with the possibility that adhE expression responds to the level of reduced NAD rather than to a glycolytic intermediate.

L6 ANSWER 5 OF 10 MEDLINE DUPLICATE 3  
 AN 91369191 MEDLINE  
 DN 91369191 PubMed ID: 1832533  
 TI Plasma membrane Mg(2+)-ATPase of Pachysolen tannophilus: characterization and role in alcohol tolerance.  
 AU Barbosa M F; Lee H  
 CS Department of Environmental Biology, University of Guelph, Ontario, Canada.  
 SO APPLIED AND ENVIRONMENTAL MICROBIOLOGY, (1991 Jul) 57 (7) 1880-5.  
 Journal code: 7605801. ISSN: 0099-2240.  
 CY United States  
 DT Journal; Article; (JOURNAL ARTICLE)  
 LA English  
 FS Priority Journals  
 EM 199110  
 ED Entered STN: 19911103  
 Last Updated on STN: 19990129  
 Entered Medline: 19911016  
 AB Following **cell** fractionation in **sucrose** density gradients, plasma membrane Mg(2+)-ATPase from Pachysolen tannophilus was studied. The ATPase displayed an apparent Km for ATP of 1.42 mM and was inhibited by high concentrations of Mg2+. The inhibitory effects of ethanol, 1-propanol, 1-butanol, and benzyl alcohol on Mg(2+)-ATPase were

evaluated, and the concentration of each alcohol that inhibited ATPase activity by 50% (IC50) was determined. The IC50 **decreased** as the chain length of the **alcohol** increased. Moreover, the IC50 for ATPase activity was similar to the IC50 for growth rate, suggesting an association between impaired growth and ATPase inhibition. Almost complete inhibition of ATPase activity occurred at temperatures approaching 60 degrees C, and the optimal temperature was around 44 degrees C for ATPase from both control and ethanol-treated cells. Inclusion of 50 mM MgCl2 or CaCl2 in the medium did not rescue cells from the deleterious effects of ethanol.

- L6 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 4  
 AN 1993:470470 CAPLUS  
 DN 119:70470  
 TI Effects of acetic acid on alcoholic fermentation  
 AU Gutierrez, Luiz E.; Annicchino, Aparecida V. K. O.; Lucatti, L.; Stipp, Joao M. S.  
 CS Esc. Super. Agric. "Luiz de Queiroz", USP, Piracicaba, 13 400, Brazil  
 SO Arquivos de Biologia e Tecnologia (1991), 34(2), 235-42  
 CODEN: ABTTAP; ISSN: 0365-0979  
 DT Journal  
 LA Portuguese  
 AB The effects of HOAc during alc. fermn. with low (72 mg/100 mL) and high (1330 mg/100 mL) levels of *Saccharomyces cerevisiae* M-300-A on EtOH, glycerol, and higher alc. prodn., yeast growth, **trehalose** accumulation, and **cell** viability were studied. The addn. of 4200 mL HOAc/L in fermns. with low inoculum level **decreased** the amt. of glycerol formed, raised **alc.** prodn. and trehalose accumulation, while increasing the EtOH content without affecting cell viability. In fermns. with high inoculum levels and >1050 mg HOAc/L, a delay in the fermn. time occurred.
- L6 ANSWER 7 OF 10 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
 AN 1989:123564 BIOSIS  
 DN BA87:58217  
 TI PRELIMINARY STUDY OF THE EFFECT OF ADDING ETHANOL ON THE ALCOHOLIC FERMENTATION CAUSED BY *SACCHAROMYCES-CEREVISIAE*.  
 AU LEITE S G F; FRANCA F P D  
 CS DEP. DE ENGENHARIA BIOQUIMICA-ESCOLA DE QUIMICA, BLOCO E - CENTRO DE TECNOLOGIA, CIDADE UNIV. - ILHADO FUNDAO - UFRJ, 21941 RIO DE JANEIRO RJ, BRASIL.  
 SO REV MICROBIOL, (1988) 19 (4), 430-431.  
 CODEN: RMBGBP. ISSN: 0001-3714.  
 FS BA; OLD  
 LA Portuguese  
 AB The process developed by *Saccharomyces cerevisiae* F1 were carried out in 150 g/l of sucrose with variable ethanol concentration (0 to 100 g/l). Biomass and ethanol produced were **decreasing** with the increasing of **alcohol** added while residual substrate was **decreasing**. Cells were freely permeable to ethanol and was not detected in accumulated intracellular ethanol.
- L6 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 5  
 AN 1986:513553 CAPLUS  
 DN 105:113553  
 TI Effects of sugar-cane chip pretreatments on their conversion to ethanol using the Ex-Ferm process: particle size, storage, drying or ensilage  
 AU De Cabrera, Sheryl; De Arriola, Maria del Carmen; Rolz, Carlos  
 CS Appl. Res. Div., Cent. Am. Res. Inst. Ind., Guatemala City, Guatemala  
 SO Enzyme and Microbial Technology (1986), 8(8), 491-7  
 CODEN: EMTED2; ISSN: 0141-0229  
 DT Journal  
 LA English  
 AB Different handling and pretreatment procedures of sugarcane chips prior to

fermn. by yeast to EtOH [64-17-5] employing the Ex-Ferm technique were investigated. Juice quality deteriorated faster when the cane was chipped and stored at higher temps. Deterioration was proportional to storage time. However its Ex-Fermn. to EtOH proceeded normally and final EtOH values were similar to those obtained by fermenting fresh cane. Chip drying increased the sugar extn., but alc. yields tended to **decrease** when drying temps. of 100.degree. had been used. Cane chips were easily ensiled. Enough lactic acid was produced to preserve the chips. During ensilage a substantial amt. of EtOH was produced. When Ex-Fermented, the ensiled chips behaved normally. Sugar extn. and final EtOH values were similar to those obtained when fermenting fresh chips. No inhibition of yeast action was noticed. When the effect of cane chip size was studied, sugar extn. rates were faster with smaller chip particles. There was an initial period of rapid sugar accumulation in the soln. followed by a similar decrease due to yeast action. For cane chips >0.95 cm in diam., sugar concn. in the cane was higher than in the pressed juice, which meant that **sucrose** in the unbroken sugarcane **cells** was harder to ext. Ex-Ferm provides the necessary gradient for this extn. through fermenting the sugar in situ, since the EtOH concn. in the pressed juice was always higher than that in the bulk of the circulating beer, suggesting that EtOH conversion was taking place within the cane solid matrix at least close to the cut surface where yeast can adsorb and penetrate.

L6 ANSWER 9 OF 10 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

AN 1986:118589 BIOSIS

DN BA81:29005

TI MODIFICATION OF THE CARBOHYDRATE IN RICIN WITH METAPERIODATE AND CYANOBOROHYDRIDE MIXTURES EFFECT ON BINDING UPTAKE AND TOXICITY TO PARENCHYMAL AND NON-PARENCHYMAL CELLS OF RAT LIVER.

AU SKILLETER D N; PRICE R J; THORPE P E

CS MRC TOXICOL. UNIT, MED. RES. COUNCIL LAB., WOODMANSTERNE RD., CARSHALTON, SURREY, SM5 4EF.

SO BIOCHIM BIOPHYS ACTA, (1985) 842 (1), 12-21.

CODEN: BBACQJ. ISSN: 0006-3002.

FS BA; OLD

LA English

AB The carbohydrate in the toxic glycoprotein ricin was chemically modified by simultaneous treatment with sodium metaperiodate and sodium cyanoborohydride. This treatment causes oxidative cleavage of the sugar residues and reduction of the aldehyde groups which are formed to primary **alcohols**. The modification markedly **decreased** the rapid **removal** of ricin from the blood by hepatic non-parenchymal cells with only a relatively small increase in accumulation of the toxin by parenchymal cells. Binding, uptake and toxicity of the modified ricin in primary monolayers cultures of hepatic non-parenchymal cells were all decreased to a much greater extent than in parenchymal cells. The results indicate that native ricin binds to non-parenchymal cells by a dual recognition process which involves both interaction of **cell** receptors with the **mannose**-containing **oligosaccharides** of the toxin and binding of ricin to galactose-containing glycoproteins and glycolipids on the cells. However, uptake and toxicity of native ricin in non-parenchymal cells appears to result principally from entry of the toxin through the mannose recognition pathway. By contrast, uptake and toxicity of the modified ricin in non-parenchymal cells, and of both ricin and the modified toxin in parenchymal cells, is expressed essentially through the galactose-recognition route.

L6 ANSWER 10 OF 10 CAPLUS COPYRIGHT 2003 ACS

AN 1960:7619 CAPLUS

DN 54:7619

OREF 54:1640f-i,1641a-c

TI Mechanism of the enzymic synthesis of a branched trisaccharide containing the .alpha.-1,2 glycosidic linkage

AU Bourne, E. J.; Hartigan, J.; Weigel, H.  
CS Univ. London  
SO Journal of the Chemical Society, Abstracts (1959) 2332-7  
CODEN: JCSAAZ; ISSN: 0590-9791  
DT Journal  
LA Unavailable  
AB A trisaccharide produced during the growth of *Betacoccus arabinosaceus* (*Leuconostoc mesenteroides*) on sucrose-C14 (Ia) medium contg. lactose was characterized as O-.beta.-D-galactopyranosyl-(1.fwdarw. 4)-O[(C14)-.alpha.-D-glucopyranosyl-(1.fwdarw. 2)]-D-glucose (I). The distribution of C14 in its 3 monosaccharide units was in accordance with a mechanism involving the transfer of the glucose residue from Ia to the reducing moiety of lactose. An aq. medium contg. 1% yeast ext., 0.5% NH<sub>4</sub>Na<sub>2</sub>PO<sub>4</sub>, 0.1% KH<sub>2</sub>PO<sub>4</sub>, 0.05% hydrated MgSO<sub>4</sub>, and 2% Ia adjusted to pH 7 and sterilized, inoculated with *B. arabinosaceus* and incubated 4 days at 25.degree., paper chromatography of the culture medium in solvent (a) (BuOH:alc.:H<sub>2</sub>O) (4:1:5) revealed components with R<sub>f</sub> values identical with those of lactose, sucrose (first 24 hrs.), fructose (24 hrs. only), glucose, and I. The culture medium was adjusted to pH 7 and heated 10 min. at 90.degree., the cells removed, the oligosaccharide mixt. fractionated on C-Celite; H<sub>2</sub>O eluted the monosaccharides and salts, and 5% aq. alc. removed lactose. Ia (351 mg.) was obtained by elution with 10% aq. alc. Paper chromatography of Ia in solvent a and of its benzylamine deriv. in solvent (f) (BuOH:alc.:H<sub>2</sub>O: NH<sub>3</sub>) (4:1:4.9:0.1) showed that each moved as a single radioactive component. It was detected with Me<sub>2</sub>COAgNO<sub>3</sub>-alc. NaOH and with aniline H phthalate, but not with alk. triphenyltetrazolium chloride. The specific activity of Ia was 523 .mu.c./g. atom of C, or 9417 .mu.c./mole of Ia. Ia (4.7 mg.) hydrolyzed in 1 ml. 1.5N H<sub>2</sub>SO<sub>4</sub> 4 hrs. at 100.degree., paper chromatography of the hydrolyzate in solvent a showed components of glucose and galactose, while radiograms revealed C14 only in the former. Paper chromatography of a partial hydrolyzate of 8.4 mg. Ia in solvent a showed glucose, galactose, kojibiose, lactose, and Ia, with radioactivity in glucose, kojibiose, and Ia. Ia (1 mg.) added to 0.1 ml. almond .beta.-glucosidase soln. and paper chromatography of the digest after 72 hrs. incubation at 37.degree. revealed the presence of about 70% Ia, kojibiose-C14, galactose, and glucose. Under similar conditions lactose was completely hydrolyzed and maltose gave a trace of glucose. Ia (74.7 mg.) in 1.25 ml. H<sub>2</sub>O treated 2.5 hrs. at 100.degree. with 165 mg. PhNHNH<sub>2</sub> in 0.165 ml. AcOH, then overnight at 0-2.degree. and the mixed osazones isolated, was shown by chromatography to be the phenylosazones of glucose and lactose. The osazones were detd. by ultra-violet light and by Me<sub>2</sub>CO-AgNO<sub>3</sub>-alc. NaOH. Their specific radioactivities were 4203 and 1184 .mu.c./mole of substance, resp. Ia (33.8 mg.) in 7.3 ml. H<sub>2</sub>O reduced 20 hrs. at room temp. with 37.5 mg. NaBH<sub>4</sub>, excess borohydride destroyed with 0.4 ml. 3N H<sub>2</sub>SO<sub>4</sub>, vol. made up to 15 ml., 3 ml. of this adjusted to pH 7 was passed through a column of Permutit; paper chromatography of the residue showed that it was a single compd. Another part (10 ml.) was adjusted with 2.4 ml. 3NH<sub>2</sub>SO<sub>4</sub> to a normality of 0.5N, heated 4 hrs. at 100.degree., and passed through a column of Permutit; paper chromatography showed the presence of glucose, galactose, and sorbitol. Radioactivity resided in the glucose portion. Lactose (68.2 mg.) in 1.65 ml. AcOH and 12.5 ml. H<sub>2</sub>O heated 2.5 hrs. at 80.degree. with 0.22 g. PhNHNH<sub>2</sub>, kept overnight at 0-2.degree., and the product chromatographed on paper showed the presence of lactose phenylosazone and a trace of monosaccharide phenylosazone.